A.D. 1813 . . . . N° 3661.

SPECIFICATION

OF

BENJAMIN MERRIMAN COOMBS.

COOKING APPARATUS.

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COOMBS' SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, Benjamin Merriman Coombs, of Fleet Street, in the City of London, Ironmonger, send greeting.

WHEREAS His most Excellent Majesty King George the Third, did, by His Letters Patent under the Great Seal of Great Britain, bearing date at Westminster, the Ninth day of March now last past, give and grant unto me, the said Benjamin Merriman Coombs, my executors, administrators, and assigns, His especial licence, full power, sole privilege and authority, that I, the said Benjamin Merriman Coombs, my executors, administrators, and assigns, and every of them, by myself and themselves, or by my and their deputy and deputies, servants or agents, or such others as I, the said Benjamin Merriman Coombs, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England and Wales, and the Town of Berwick upon Tweed, my Invention of "An Improved Apparatus for the Cooking or Dressing of Victuals, possessing other Advantages for Lessening the Consumption of Fuel, and otherwise;" in which said Letters Patent there is contained a proviso obliging me, the said Benjamin Merriman Coombs, by an instrument in writing under my hand and seal, particularly to describe and ascertain the nature of my said Invention, and in what manner the same is to be performed, and to cause the same to be inrolled in His Majesty's High Court of Chancery within two calendar months next and immediately after the date of the said recited Letters Patent, as in and by the said Letters Patent, reference being thereunto had, will more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said Benjamin Merriman Coombs, do hereby describe and ascertain the nature of my said Invention, and the manner in which the same is to be performed, by the accompanying Drawings or Figures, and as follows, that is to say:—

My said improved apparatus, besides possessing the requisites common to various cooking apparatus now in use, and to which as Inventions well known I neither can nor do assert any exclusive claim, possesses several improvements which, from the notice that will be taken of them in the following detail, there will be no difficulty in distinguishing from the common and well-known component parts of cooking apparatus hitherto in use. I have to premise, for the sake of brevity, that the body of my apparatus, like that of other cooking apparatus in common use, is made of metals, and principally of cast iron, except in my portable apparatus, in which, for lightness, I sometimes prefer sheet iron, copper, brass, or any wrought metals, and that the size and the number of particulars which it is made to contain varies according to the size of the premises, the ship, the barracks, or the family for whose use it is adapted. A few Drawings with references will convey a correct idea of the modifications of which the apparatus is susceptible. Figure 1 represents the horizontal top plate of one arrangement of my apparatus. The openings A and B are for two boilers; C is also an opening over the fire-place, but fitted with a sliding cover to slide back upon the part D when an open fire is wanted or fuel to be supplied; the dotted compartment E marks where the oven stands under the cover at one side of the fire. Figure 2 represents a front elevation of the parts under the top plate of Figure 1 with my newly invented cinder sifter under the fire-place. A and B mark the place of the boilers; C, D, the fire-place; E, the oven; F, the cinder sifter, with its drawers *a* and *b* to receive the ashes and cinders; G and H, two warm closets or cupboards. In this arrangement one end of the boiler B is always close to the fire at C, D, but it is made oblong and placed backwards to allow an enlargement of the fire-place when occasion requires it. This power of enlarging the fire-place is new, and is effected by making the cheek or part of it fast to a part of the front plate, which said part of the front plate is moveable in a top and bottom groove or rabbit, (by means of a rack and pinion or any similar contrivance,) so as to recede from the fire towards I, the front fire bars being of sufficient length to admit of this.

Behind the lower part of the cheek, and attached to it is a horizontal plate of sufficient size to cover that part of the bottom bars, and prevent the access of cold air when these bars are not covered with the enlarged fire.

N.B. The said moveable or sliding front piece may be either in front of that part of the front fire bars which is only used occasionally (and which is represented in dotted lines in Figure 2), or it may be behind the said bars. In the former case there must be perforations in the cheek answerable to the fire bars, that the cheek may be able to move freely along with the moveable front piece. From what has been stated is apparent that when the cheek is wound towards I, the fire-place is enlarged in the same direction, and in front of the boiler B, where, however, it is not so deep as at C, D, nor is there occasion for its being so deep there, having less work to perform. The boiler A is of a form different from any in use hitherto; the front and back recede inward, each at a right angle, a few inches before they come down to the bottom, and then descend at a right angle to the bottom, leaving a recess behind, and in front for the heated current to pass by the one and return by the other, and on the side next the fire there is a projecting prism or cylinder *c*, which is allowed to touch the oven. A vertical front view is shewn in Figure 3, and a view of the side next the fire in Figure 4, in which the projecting prism or cylinder which forms part of the boiler is shewn at C, and the before-mentioned recesses at *d* and *e*. The boiler B has recesses similar to those just described, and is sometimes furnished with a projecting prism or cylinder like that of the boiler A. In this arrangement the hot current from the fire passes from C, D, over the oven E under the boiler A by one bottom recess, and then round it, and returns by the other recess under the oven E, and thence into the flue at the back, or by a fit channel behind the ash pit or back of the fire is made to pass along one recess under the boiler B, and return by the other before it is allowed to reach the flue. This arrangement I sometimes vary by placing a boiler of the whole or greater part of the width of the apparatus next the moveable cheek, and when this is the case the boiler recedes with the cheek and part of my front, the fire following it, and part of the top plate is made moveable in the same way as the moveable front part already described. Sometimes, instead of one door to the oven, I have it divided into two, so that what is on the upper shelf or shelves may be removed without opening the lower door, and vice versa.

The construction of my cinder sifter F, Figure 2, is evident in the Drawing, only it may be remarked that the inclined part *f*, *g*, represents the end of the sieve through which the ashes fall into the drawer or box *a*, while the cinders roll or slide down through the opening at *g* into the box or drawer *b*; the inclined line *h*, *g*, represents a plate of metal over *b*, to prevent anything that falls from the fire from getting into *b* till it has first passed on to the sieve *f*, *g*, to be sifted. Instead of sending the cinders and ashes to the right and left, the sifter may be placed so as to send them to the front and back, and vice versa. In front of my cinder sifter I sometimes introduce a fender or fire guard of wirework or of pierced or solid metal plate, composed of one or more pieces according to the height it may be required to screen when the height requires it. The pieces fit each other in such a manner that when down they appear like a common fender, but they are made to rise in succession, one to the top of another, till the required height is obtained, being kept in their places by uprights at the ends (and in the middle when wanted) by pins, buttons, springs, or any suitable contrivance. This part of my apparatus may be made highly ornamental, as well as safe and œconomical, to fit them for dining rooms, parlours, and other apartments. Figure 5 represents another top plate which yields a convenient arrangement. At one end there is a sliding piece K, (for the purpose of allowing the use of an open fire when wanted,) which slides upon the part Z, or Z may slide under or over K. At the other end there is an opening L to receive a boiler placed partly over the oven, the place of the oven being marked by the dotted lines *i k*, *k l*, *l m*, and the front dark lines *m*, *i*. In this case the boiler has the bottom recesses already described, but may either have them or not, or the projecting prism and the boiler is only partly sunk below the level of the top part of it projecting above the top. The bottom may rest upon the oven, but I prefer keeping it from absolute contact. This arrangement is sometimes extremely convenient, as it requires less room than where the boiler is placed at the side of the oven. This top presents an improvement not hitherto in use. Over the fire and oven hollow recesses *n*, *n*, *n*, *n*, *n*, are cast in the plate or attached to it (but the former is preferable) to receive the bottoms of pans intended to be heated; by this contrivance they are made to receive heat by their sides, as well as the bottoms; and besides they are kept safe in their places, which is an object of importance when the apparatus is for ships. The part inclosed by the dotted line at *o* is attached to a part of the fire front and opens along with it to facilitate the introduction of fuel. I have yet another circumstance to mention respecting my top plates. I frequently attach to their under surface over the fire and the oven projections of iron either cast in the same piece or joined to the top by screws or rivets, but the former is preferable. Their use is to make the fire act longer upon the top plate than it does when allowed to pass directly onwards without impediment or interruption, and to serve for reservoirs, as it were, of the heat thus arrested, that the pans placed on the top may be heated with greater dispatch and certainty. I have marked in red colour the places of four of these arresters of heat in Figure 1, at *p*, *p*, *p*, *p*. The form, number, and position of the arresters is of little importance if the purpose for which they are introduced is not lost sight of in constructing the apparatus, namely, to retard a little, but not absolutely to impede, the passage of the hot current from the fire. As my apparatus allows the use of an open fire, I frequently furnish with it hoop inclosures for my culinary vessels to prevent their sides from being soiled with soot. Figure 12 represents a section of a pan with such a hoop inclosure. A, the pan; *b*, *b*, the said inclosure; *c*, an opening with a pipe to carry the smoke away from the pan. These inclosures are either attached to the pans or separate, and the whole may either stand on a trivet or on bars, or be suspended over the fire by any of the methods commonly employed with an open fire. When required or when it may be necessary (which can seldom be the case), the fire-place may be enlarged by making the oven to recede under the boiler when disposed, as in Figure 5, instead of winding back the cheek at the other end. In this case the back, the bottom, and front bars move along with the oven from recesses adapted to them at their other ends. I also sometimes introduce into my apparatus means for lessening or increasing the fire by making the bottom bars to ascend or descend by means of a worm or nut. When my apparatus is intended for shipboard or for a camp it has iron back and ends, as well as front, top, and bottom; and in this case I increase the number of boilers and put my fire at one end, making the boilers, for convenience of packing and carriage, to nest into each other, and the sides and ends of the body to be separable by means of screws and nuts or any of the usual contrivances resorted to by workmen for similar purposes. It may also be furnished with shafts and wheels or casters to facilitate its removal from one spot to another, or with rings and bolts to fasten down to the decks of ships.

I shall now describe my arrangement which I adopt for my apparatus where it is wished to embrace other family objects besides cooking, and at the same time to be very portable, that it may be moved with facility from one apartment to another.

Figure 6 represents the body of the apparatus with a boiler having bottom recesses, as before described. M is the boiler, having its form marked with dotted lines; N is the fire-place, which only goes about half way to the back of the apparatus (or more or less according to its size); O is the ash pit; *q*, *q*, is an iron plate over the fire having two pieces cut out of the back corners, as shewn in Figure 7, which represents the same plate. The hollow projection *r*, *r*, goes along all the four sides of the body, and in that part of the projection which is behind, and out of sight in the Drawing, there is an opening proportioned to the size of the apparatus to allow the smoke to escape through a short hollow prism into the chimney where the apparatus may chance to be placed.

The space not occupied by the fire, and lying behind the fire, answers the purpose of an oven; or where a supply of hot water is preferable, the space at the back and sides of the fire may be adapted for that purpose. The fire or hot current in this arrangement strikes against the plate *q*, *q*, passing back over the oven (or water vessel, as the case may be,) and under the said plate *q*, *q*, and then ascends through the corner vacancies S, S, to the bottom recesses of the boiler, in which it finds its way forward to the front of the apparatus at *t*, *t*, where it ascends again (through two short passages projecting from the front) into the upper projection *r*, *r*, before mentioned, and then finds its way to the opening behind and escapes. A heater stove or stewing stove or pan (Figure 9) adapted to the part occupied in the Drawing by the boiler M, is furnished along with this apparatus to be substituted when wanted in place of the boiler, which is moveable. The plate *q*, *q*, Figure 6 and Figure 7, and the horizontal iron flue *r*, *r*, Figure 6, are not only applicable to my apparatus in a portable form, but to boilers of any required dimensions, and sometimes I make the said plate to rest upon, or connect it in one piece with a pillar of iron at the back of my fire, which receiving the direct heat of the fire, acts as a conductor to transmit the heat to the plate *r*, *r*, and thence to the boiler which rests on it. Figure 8 represents my cradle or jointed spit, which hangs by the hook *y*. It is composed of four hollow tubes *x*, *x*, *x*, *x*, which receive four rods or wires *z*, *z*, *z*, *z*; at *v*, *v*, there are pivot joints, so that the inner compound eliptical hoop thus formed can be turned at right angles or at any other angle to the outer compound eliptical hoop. In the position shewn in the Drawing, they receive the fowl or whatever is to be roasted, and when turned at right angles on their pivots *v*, *v*, they inclose and retain it, the rods *z*, *z*, *z*, *z*, being pushed home as far as may be necessary into the tubes *x*, *x*, *x*, *x*, and then fixed by a turn or two of the thumb screw *a*. At the top there is a perforated cap *c*, to receive the basting. The two compound hoops are suspended by the wire *b*, *b*, at the lower end of which there are pivots *w*, *w*, on which the two hoops may be turned to present their ends to the fire in place of their sides, and on these pivots a dripping pan *e* is suspended by the hooked wires *d*, *d*. In a similar manner, I construct a horizontal cradle spit, to be turned by a jack and chain. In this case, the outer wires *b*, *b*, and *d*, *d*, are not used; and the pivot *v*, at one end of the outer compound hoop is united to it, and lengthened out to become the point of the spit, while the other pivot made fast to the other end is lengthened out and furnished with the chain pulley. Sometimes, instead of the tubes *x*, *x*, *x*, *x*, I make use of simple rods with sockets or rings to receive the wires or rods *z*, *z*, *z*, *z*. In fact, this may be varied by different mechanical contrivances, which may all answer equally well; all that is wanted being to have the power of shortening the

FIG. 2.

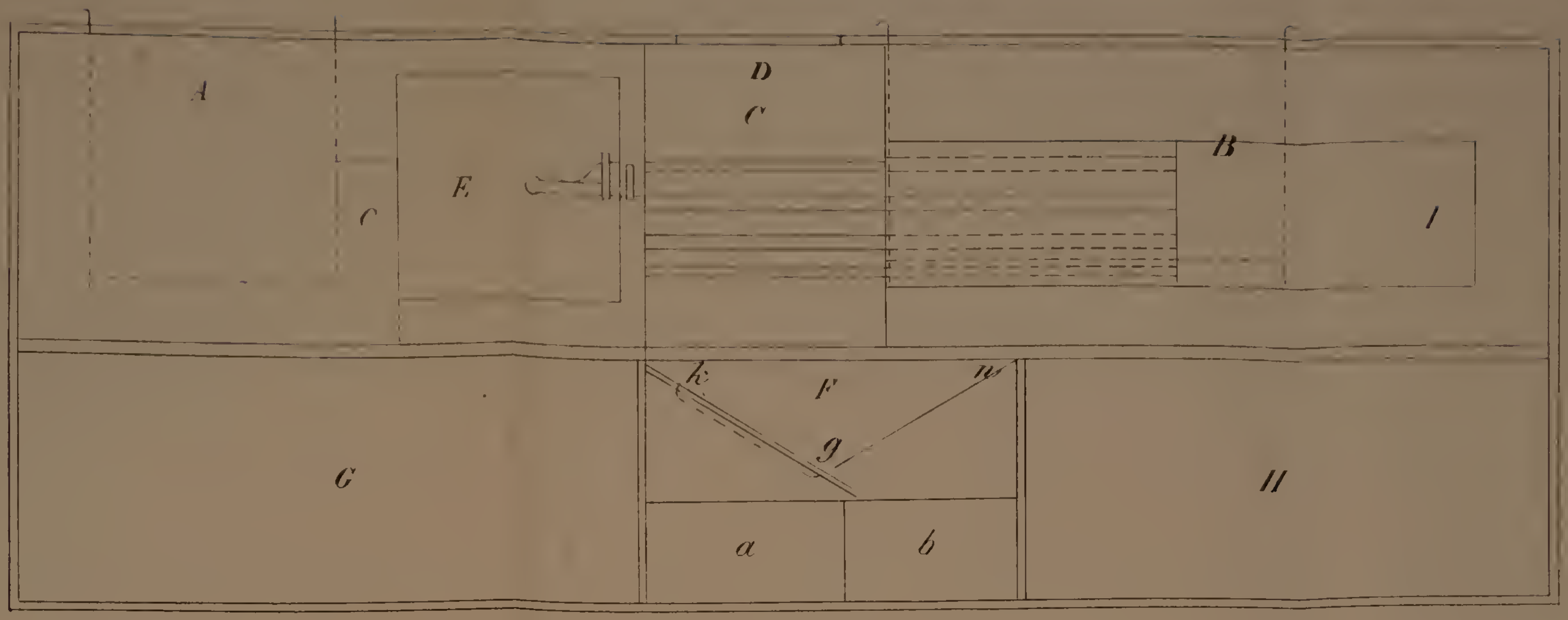


FIG. 1.

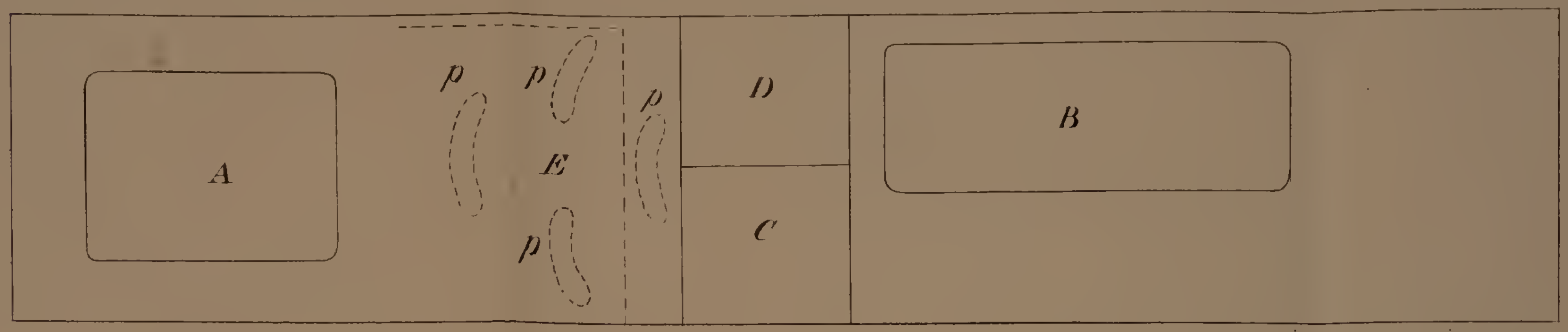


FIG. 5.

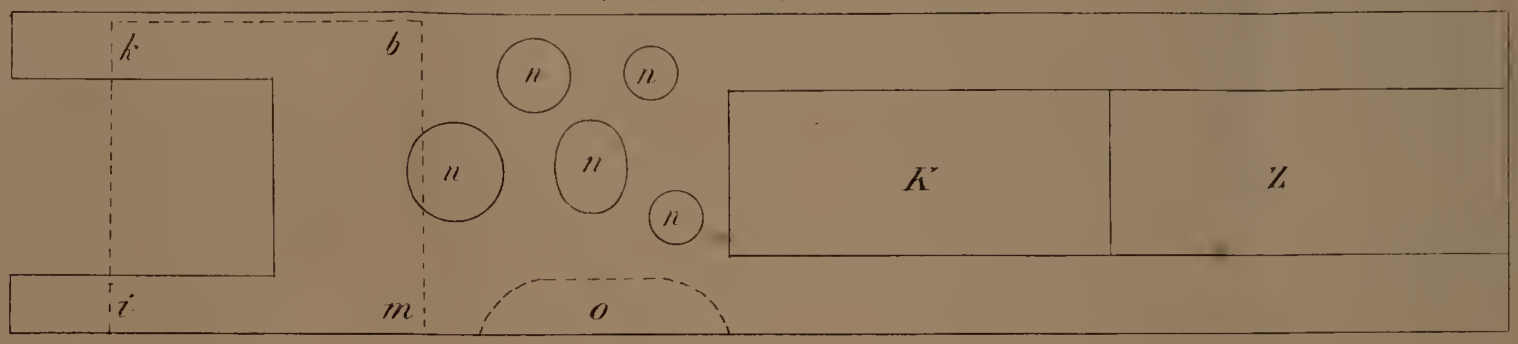


FIG. 3.

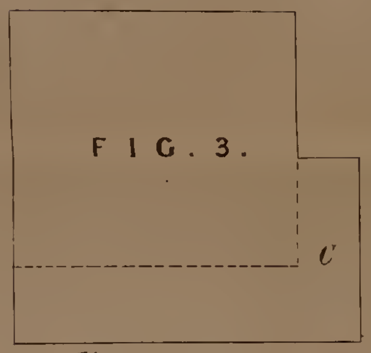


FIG. 4.

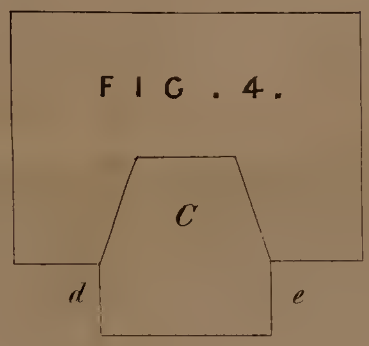


FIG. 6.

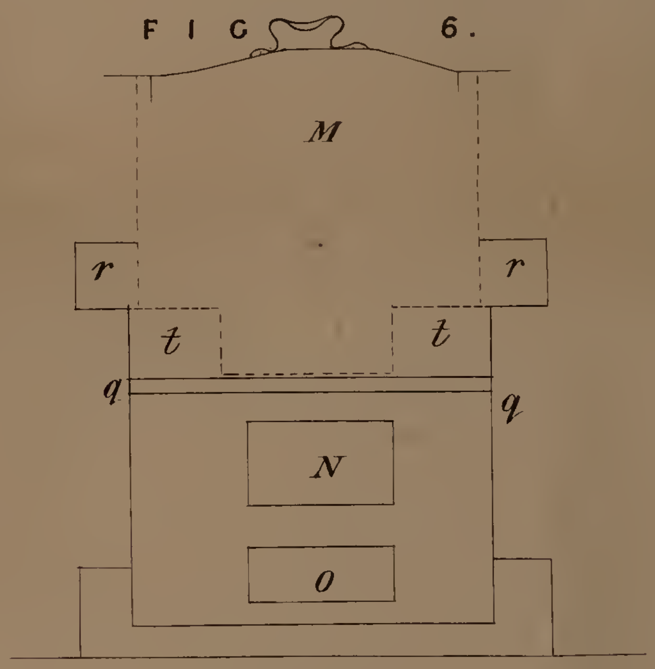


FIG. 8.

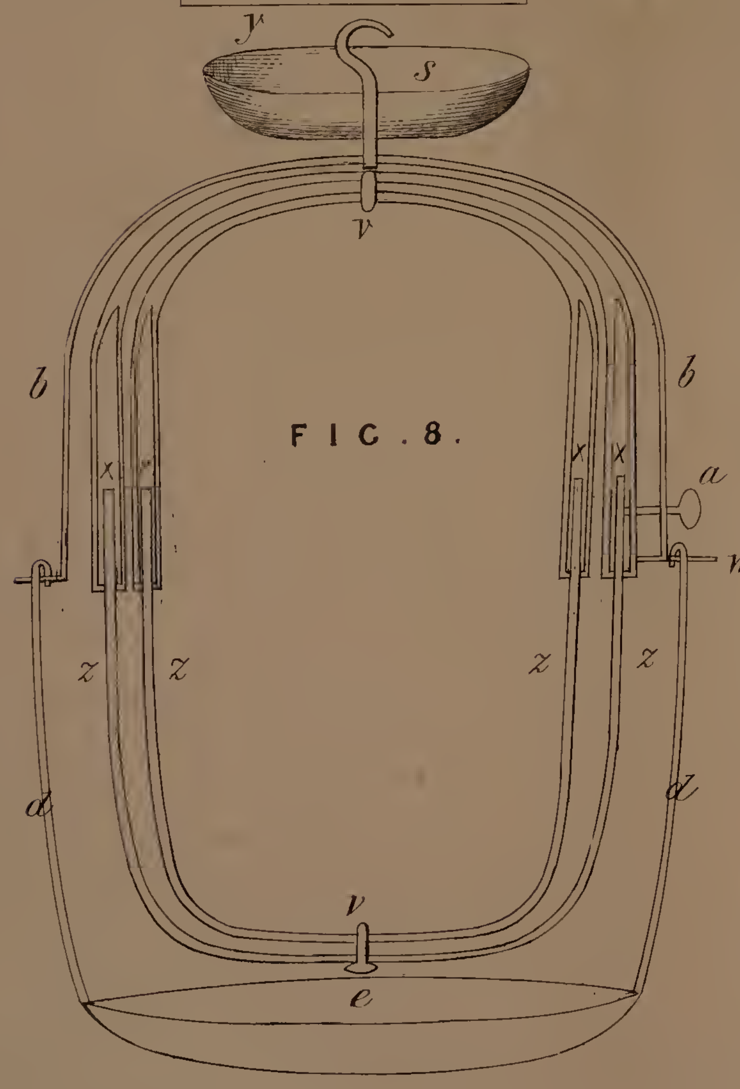


FIG. 7.

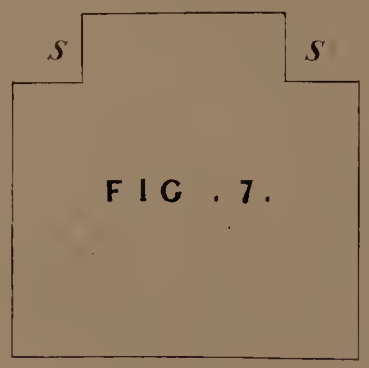


FIG. 9.

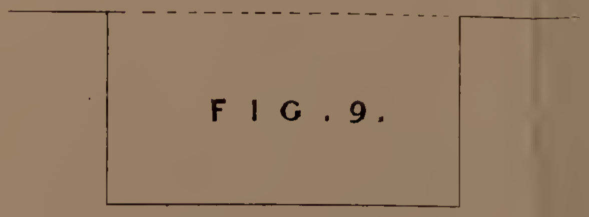


FIG. 10.

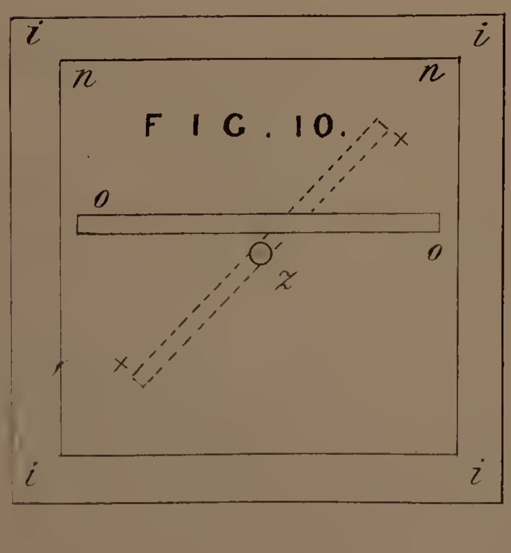


FIG. 11.

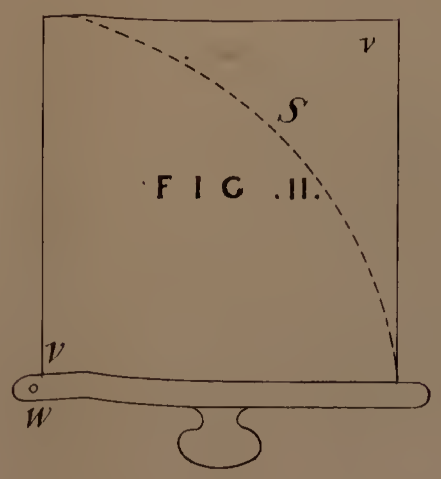
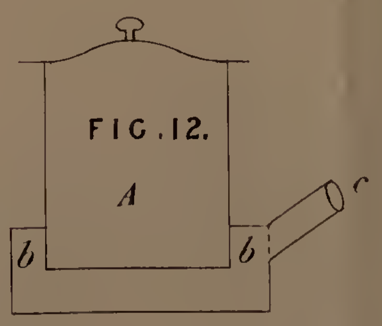


FIG. 12.



The enrolled drawing is partly colored.

Malby & Sons, lith.

LONDON Printed by George Edward Eyre and William Spottiswoode,
Printers to the Queen's most Excellent Majesty. 1854.

ends of the compound hoops and contract the sides. My register, regulator, or damper for regulating the draft of the flue or chimney is different from any now in use, and is applicable to almost all flues where a damper or regulator is wanted. It is framed with, jointed to, or works in the soot door or closure of the aperture by which the flue is cleaned. To the iron frame *i, i, i, i,* Figure 10, (which is made fast in brickwork,) is fitted an iron door *n, n, n, n,* attached to the frame by hinges, by buttons, or by any of the usual mechanical contrivances. In the door *n, n, n, n,* there is a slit *o, o,* which receives the damper plate *r, r,* Figure 11. Sometimes, instead of making the damper plate to slide in or out, I give it the form of a quadrant, as marked by the dotted curved line S, and attach it to the door by a joint or hinge at *w*. And sometimes I attach the damper to the inside of the door (without having any slit in the door) by a pin through the centre of the door, as at Z, Figure 10, having a button or handle on the outside to turn it by, and having its inner end made fast to the damper plate, so that by turning the button or handle on the outside, the damper may be placed at any required angle in the flue, as at *x, x,* Figure 10. The principle advantage possessed by my register is, that all the parts are attached together, and require but one fitting to the flue.

In witness whereof, I, the said Benjamin Merriman Combs, have hereunto set my hand and seal, this Eighth day of May, in the year of our Lord One thousand eight hundred and thirteen.

B. M. COOMBS. (L.S.)

AND BE IT REMEMBERED that on the same Eighth day of May, in the year above mentioned, the aforesaid Benjamin Merriman Coombs came before our Lord the King in His Chancery, and acknowledged the Specification aforesaid and all and everything therein contained, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute in that case made and provided.

Sam. C. Cox.

Inrolled the same Eighth day of May, in the year above written.

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